Book of Harmony and Composition.

FOR THE

Violin, Mandolin, Guitar and Banjo.

by

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Editor "The Cadenza," monthly music magazine, author of the "American Conservatory" Violin, Mandolin, Guitar and Banjo Methods — "Practical Hints" on Modern Mandolin, Guitar and Banjo Playing, etc, etc.

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INTRODUCTION.

This work has been prepared solely for the benefit of students of the violin, mandolin, guitar and banjo, with their needs and requirements ever in view. The aim has been to give a clear outline of the Theory of Music, Harmony and Composition, in a condensed, comprehensive and practical form so that these subjects may be clearly understood; but only in so far as the Theory of Music and Harmony may be practically applied to the stringed instruments.

The many valuable existing works on Harmony are so full of useless technical terms and are couched in such language that, as a rule, they can only be comprehended by the most highly educated, both in literature and music. In addition to these drawbacks, the largest part of the examples presented are applicable only to the piano, or to voice writing in part-harmony, or to expositions of chords and progressions which are impossible on the stringed instruments. Even with the aid of a good teacher, it has heretofore been a difficult matter for the violin, mandolin, guitar or banjo student to obtain a thorough knowledge of Harmony, for the reason that no comprehensive, elementary work on Harmony and Composition could be had that would apply to those instruments. Consequently, the student would become confused and discouraged in the effort to comprehend what was beyond his abilities, and the value of which was doubtful after being mastered.

Advanced works on Harmony, such as Richter's and Marx' works, may be taken up and studied with satisfaction by the violin, mandolin, guitar or banjo player after he has thoroughly mastered the contents of this book; but not sooner.

The author of this work has had a great many years' practical experience as a teacher of the stringed instruments, as a composer, author and editor; he understands the capabilities and needs of students of those instruments; he knows their limitations and their wants. The endeavor has been to exactly supply those wants in the contents of this book.

The plan throughout will be to avoid confusion, to omit unnecessary or unavailable material, to give what is needed and to go straight to the point in each instance.

The author has endeavored to present a thoroughly practical, useful and comprehensive work, so as to give a firm and solid foundation for future studies.

BOOK OF HARMONY AND COMPOSITION.

PRACTICALLY APPLIED TO THE STRINGED INSTRUMENTS.

Containing copious examples and illustrations — also showing examples of all possible chords in practical form for the violin or mandolin, guitar and banjo (in both the American and English Notations) together with the progressions of chords and their uses in the harmonizing of melodies and writing accompaniments; and in orchestration.

Chapter I.

Before commencing the study of this work the student should possess a fair knowledge of the rudiments of music, the ability to read readily in all the various keys, and to perform acceptably upon at least one of the instruments to which this treatise is adapted—This will make it much easier for the student to comprehend what follows; his mind having thus been prepared to receive and absorb the theoretical and practical details, which would tend to confuse him if studied without suitable preparation.

The study of Harmony and Composition includes numerous branches; the principal ones are: Notation of Music, Study of the Intervals, Transposition, Chord Construction, Progression or Modulation, Form of Compositions, The writing or construction of Melodies, the Harmonizing of Melodies or writing in Part-Harmony, and Orchestration.

Before taking up any of these subjects, let us ask what is Music?

An eminent authority defines some of the essential qualities as follows:

What is Music?

Music is the *science* which teaches the relations of sounds and the *art* of producing harmony and melody by the combination of sounds.

What is a sound?

Everything that is perceptible to our sense of hearing.

What is understood by tone?

The peculiar quality of sound; a flute has a soft tone, a trumpet may have a harsh one.

What is understood by pitch?

Musical sounds may be high or low. The difference is what is termed pitch.

What is the cause of high and low sounds?

Vibrations. A high sound is produced by quick vibrations, a lower one is the effect of slower vibrations.

What is a vibration?

A vibration is the regular oscillating motion of any string, or body, which, stretched between two fixed points, shakes and swings to and fro.

What is the meaning of the word scale?

Scale comes from the Latin and Italian word *scala*, which signifies a ladder.

What is a musical scale?

It is a series of sounds arranged in continuous succession, ascending or descending, from a given note.

When is a scale complete?

When it comprises *eight degrees of sound*; others being merely repetitions in a higher or lower pitch.

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We now come to the *study of the formation of the Scales, Intervals*, and *Notation of Music.*

Notation of Music is the art of writing music correctly, or grammatically, so to speak; that is, to learn to use sharps and flats, naturals and other characters in their proper places so as to preserve the intervals between the notes correctly, to pay attention to the signature, key and mode in which one is writing, and use the various characters as required by correct form; to learn the intervals and their relations to each other, correct formation of the scales, etc, etc, etc.

There are two kinds of scales— the *diatonic* and the *chromatic*. These terms may sound confusing, but their meaning is simple and easily comprehended when explained. The *chromatic* scale is formed of a succession of semitones (half-steps) and includes all the degrees of sound possible on any modern instrument; all other musical sounds are merely reproductions in a higher or lower pitch.

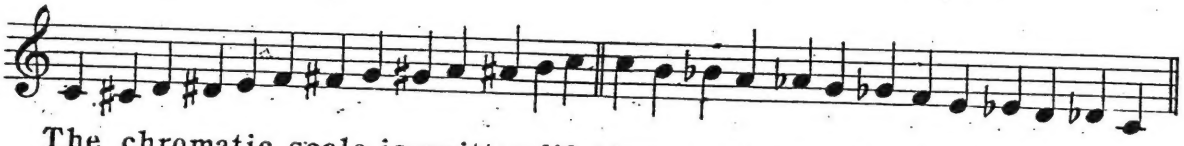
The word *chromatic* is defined as relating to colors— a series or succession of colors— In music it means proceeding by the smallest intervals (semitones or half-steps) of the scale, instead of the regular intervals of the diatonic scale.

The name is derived from the fact that the intermediate tones were formerly written and printed in colors.

Chromatic scales have no special bearing on the study of Harmony, other than their use in instrumental composition and the necessary knowledge of the correct method of writing them. In writing the chromatic scales, sharps and double sharps are mostly used in ascending, and flats and naturals in descending, thus:

Chromatic Scale.

Only sharps and flats are used in writing the following scale— In other keys, double sharps and naturals may be required.



The chromatic scale is written differently in each key; that is, the sharps and flats will occur differently, according to the signature of the key in which it is written. By paying strict attention to the signature of each key, it becomes easy to write chromatic scales correctly in all keys. The foregoing scale is written in the key of C Major.

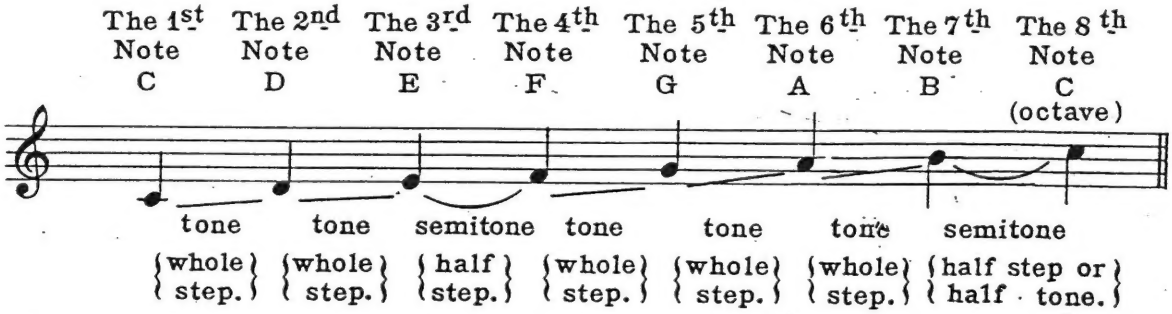
Formation of the Diatonic Scales.

The word *diatonic* is from the Greek *dia*, through, and *tonos*, a tone; the term *diatonic* is applied to the regular forms of major and minor scales because the greater number of intervals in these scales are whole tones apart(whole-steps.)

There are two modes, or methods, of writing music; the *major* mode and the *minor* mode. The *diatonic* scales (so called to distinguish them from the *chromatic*) are used in both the major and minor modes. They are formed of a combination of tones and semitones (whole-steps and half steps) according to established rules and their construction is always the same. The major diatonic scales each contain five tones and two semitones.

Each diatonic scale is constructed alike, beginning with the key note and taking the others, one after the other, in regular alphabetical succession until the octave is completed. By this means, the intervals, or distances between the notes, of the scale are preserved in their proper order. Thus:

Diatonic Scale in C Major.



The straight lines(—)show where the tones (whole-steps) occur between the notes of the major scales. The curved lines(⌣) show where the semitones (half-steps) occur between the notes of the major scales. It will be noticed that the semitones occur only between the third and fourth and seventh and eighth degrees (or notes) of the scale and that whole tones occur between all the other notes of the scale, namely, between the first and second, second and third, fourth and fifth, fifth and sixth, and sixth and seventh degrees or notes of the scale.

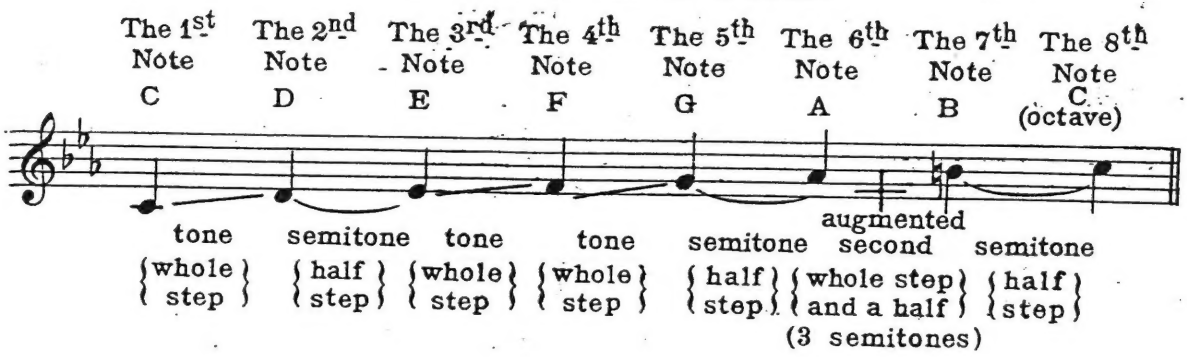
Remember, all other major diatonic scales are formed in the same way, no matter what the key used; each scale includes five tones and two semitones, and they always occur in the same succession in each major key as shown in the example given.

In reality there is but one major scale; that is in the key of C major. *The others are the same thing reproduced in a higher or lower pitch* (transposed into other keys) When the student *knows* one major scale and understands its formation *thoroughly*, he understands all major scales. *They are all alike*— simply commencing and ending on different notes.

There are several methods of writing the minor scale — The reason for this lies in the fact that considerable experimenting with the minor mode has been done by theorists generally, and so the method of writing the minor scale has been changed several times, leaving several varieties in use, more or less. The most modern minor scale is called the "Harmonic" minor mode; and as this scale is the only one used in Harmony and the only one of any practical value to the student of Harmony, we will devote our attention to that style only. The other minor scales are never used for the purposes of chord construction or harmonizing, and consequently belong to the past, not to the present. Although all major and minor scales which include tones and semitones are called *diatonic scales*, the Harmonic minor scales are *not*, strictly speaking, *diatonic* scales, as they contain, besides tones and semitones, one interval of three semitones. This entitles the minor scales to classification as a separate form and under a different title. For that reason, the scales will be designated on succeeding pages as *Chromatic, Diatonic Major* or *Harmonic Minor*. This embraces all the forms used in Harmony and will prevent confusion and mistakes.

Scale in C Minor.

Harmonic Minor Form.



The example is given here in the key of C minor because the names of the notes (the letters) are the same as in the scale of C major (example on a preceding page). By thus taking the same key note for both the major and minor scales, the student can see and comprehend at a glance the difference in the formation of the major and minor scales and note that the intervals are placed differently in the minor.

The method of writing the minor scale in any key is exactly the same as the method of writing the major scales, *with one exception*; *i, e,* the seventh note of each minor scale (leading note of the key) must be raised a semitone, by the use of an accidental sharp, double

sharp or natural, so as to bring it within a semitone of the eighth note of the scale (octave) *This rule is absolute.* The distance, or interval, between the seventh and eighth degrees of every scale, whether major or minor, must be a semitone only. That is why the seventh note of each scale is called the *leading* note of the key; as it leads naturally up to the octave, or key note. (Tonic.)

In the foregoing example, the straight lines show where whole steps occur between the degrees of the scale and the curved lines show where the half-steps occur. In the Harmonic minor scales, on account of the seventh note (leading note) being invariably raised a semitone by the use of an accidental sharp, double sharp, or natural, (not in the signature) an interval of three semitones (an *augmented* second) is caused between the sixth and seventh degrees of each scale. In the example, this interval is marked with a cross.(+)

Both the diatonic Major and Harmonic Minor scales are written the same in descending as in ascending, and contain no other intervals than those shown in the foregoing examples.

It will be seen that the difference between the major and minor scales lies in the placing of the intervals. In the diatonic major scales, the semitones occur between the third and fourth, and seventh and eighth degrees. In the Harmonic minor scales, the semitones occur between the second and third, fifth and sixth and seventh and eighth degrees, with the interval of an augmented second (three semitones) between the sixth and seventh degrees— instead of an interval of a tone which occurs between the sixth and seventh degrees of the major scales. The Harmonic minor scale, in each key, includes *three tones, three semitones,* and an *augmented second* (whole-step and a half) as intervals between the notes, instead of the five tones and two semitones employed by the diatonic major scales.

The formation of the Harmonic minor scale in any key is the same as shown in the foregoing example— To form a minor scale, take any note as the key note, write the other notes in alphabetical succession, use the correct signature for the key, raise the seventh degree of the scale a semitone by the use of an accidental, and a correct Harmonic minor scale will result.

Note well the placing of these intervals, as they show the difference between the major and minor modes. The construction of the scales and familiarity with the intervals furnishes the foundation for the entire Theory of Harmony and Composition.

Care must be exercised not to misunderstand the words "tone," "note" and "degree" as used in the study of Harmony and relating to the scales and intervals— These words are susceptible of different mean-

ings when applied differently, but as applied to the study of Harmony, their meanings are as follows: A *note* signifies a *sound* which is heard, or the *character* written upon the musical staff to represent it; a *tone* relates to the *distance between two notes*— which distance equals two semitones.

The word *degree* relates to the *fixed and immovable position of the notes of the scales.* The *key note* of each scale *always* being the *first degree* in its own key, the next highest note being the *second degree,* and so on until the *octave* is reached when the degrees are repeated throughout the succession of octaves, *always* counting the *key note* as the *first degree.*

Each degree of every scale has a technical name, in order to classify the degrees in a musical sense. The names are:

1st degree (or note) Tonic.
2nd degree (or note) Super-tonic.
3rd degree (or note) Mediant.
4th degree (or note) Sub-dominant.
5th degree (or note) Dominant.
6th degree (or note) Sub-mediant.
7th degree (or note) Sub-tonic.

The octave, or eighth note of the scale, becomes the *1st degree* or *tonic,* being a repetition of the key note, and the same order of degrees is taken up again and again, and may be repeated until the compass of the instrument for which one is writing is exhausted. The scale examples in this work are only given in one octave to avoid useless waste of space.

It remains for the student to write out the scales in full, in Mss. in several octaves (according to the compass of the instrument for which they are to be written) using the examples herein as models.

The meanings of the technical terms used to classify the degrees of a scale are given herewith.

Tonic—

The basis, the first, or key note of a scale.

Super-tonic—

The note above the tonic, the second degree of a scale.

Mediant—

The third degree of a scale.

Sub-dominant—

The "under fifth," the fourth degree of a scale.

Dominant—

The fifth degree of a scale; the term also means dominating, to dominate, to influence. One of the principal chords is constructed on this degree of the scale, and hence the term, *dominant.*

Sub-mediant—

The third below the octave of a scale (key note;) the sixth degree of a scale.

Sub-tonic—

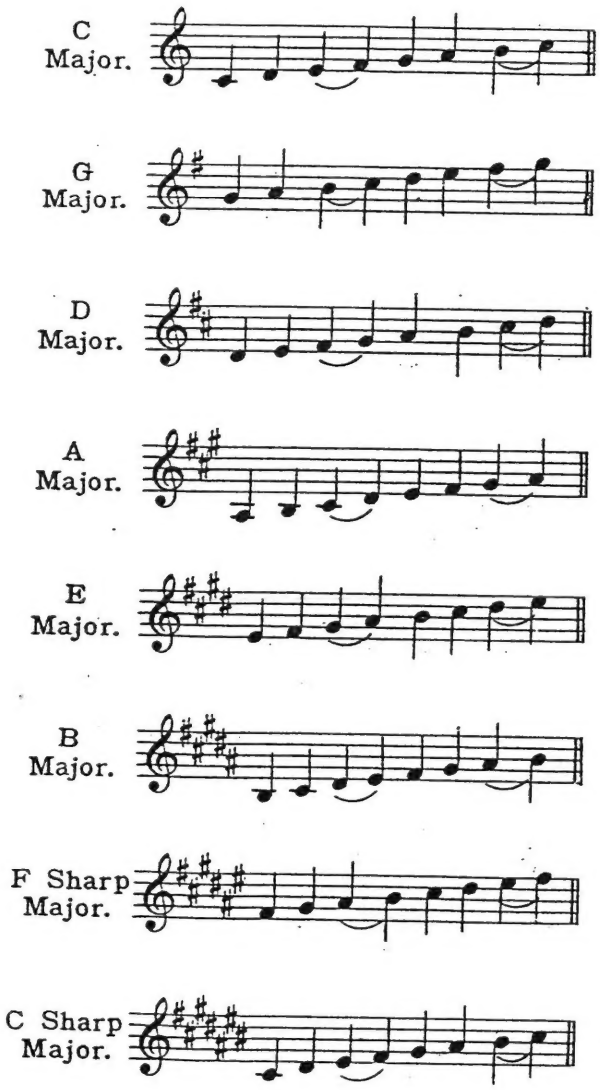
The leading note, the seventh degree of a scale.

Major and Minor Scales in all Keys.

Scales are called *relative* to each other which bear the same key-signature. Thus, E minor is termed relative to G major because it has the same signature; viz, one sharp, on F. Every major scale, or key, has a relative minor scale, or key, in which the signatures are identical — The minor scales begin invariably on the sixth degree of the relative major scales as shown in the following examples:

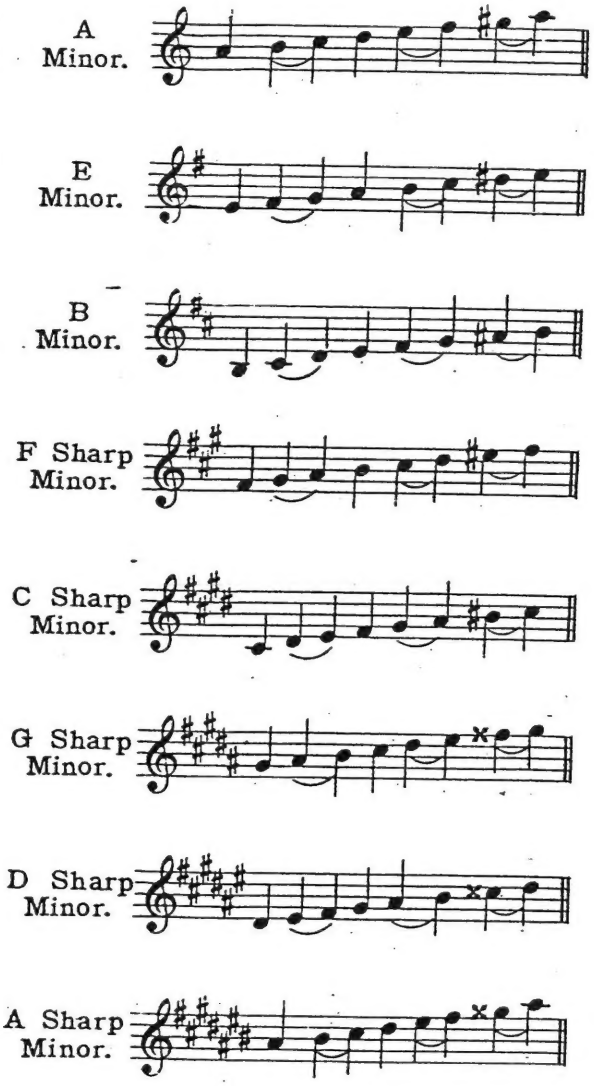
Diatonic Major Scales.

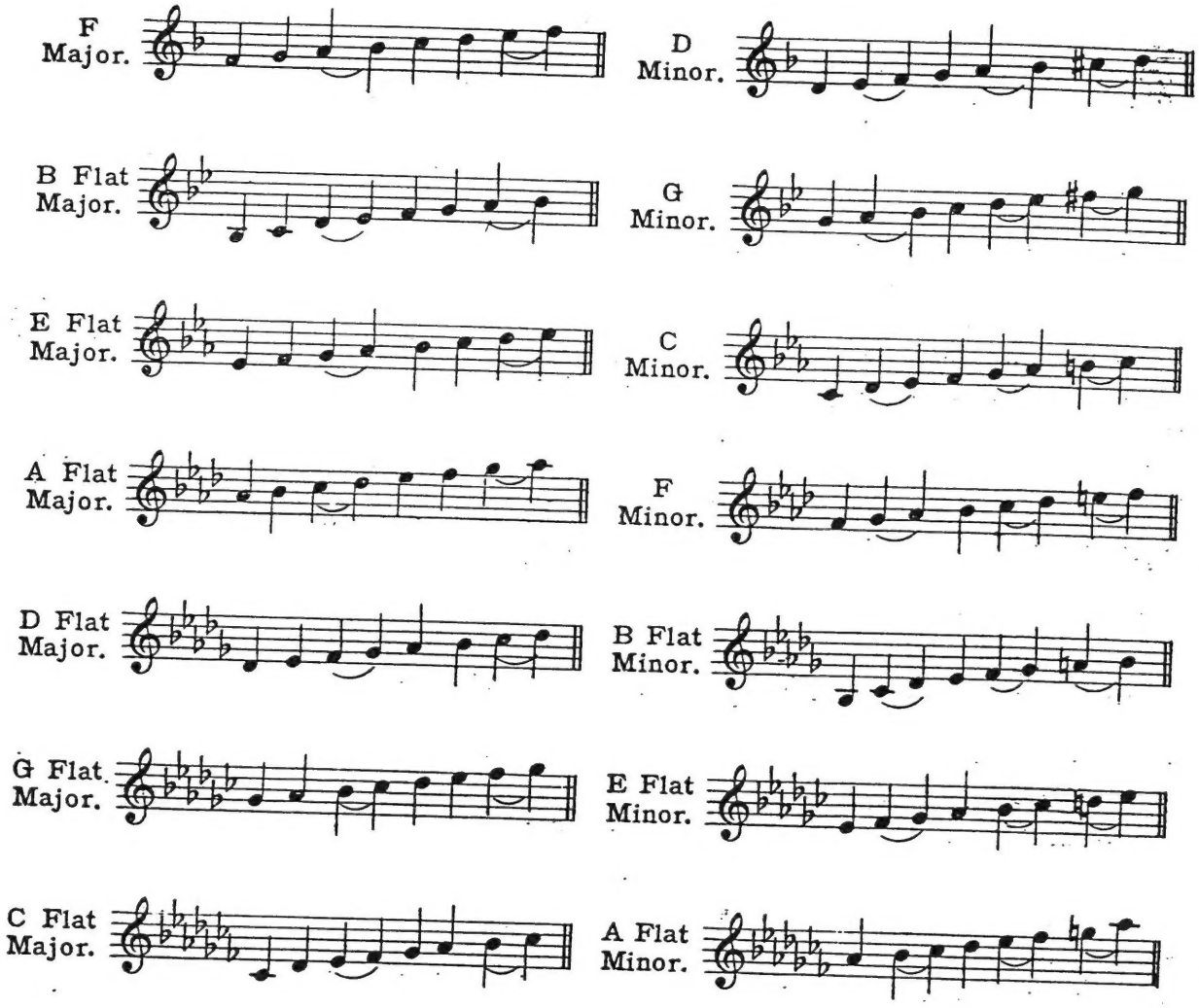
The curved lines show the number and location of the semitones in each major scale.



Harmonic Minor Scales.

The curved lines show the number and location of the semitones in each minor scale.





Special attention is called to the fact that the scales and other musical examples shown in this work are written in practical form for the violin, mandolin, guitar, banjo or piano and may be played exactly as written, on any of those instruments, without altering the pitch of any of the scales, chords or melodies or transposing them in any way.

Thus the student will derive a double advantage: He will learn to write the forms correctly and eventually to *hear* the intervals and chords (in an imaginary way) without playing a note; but in the beginning he can *play* the musical examples on one or more of the instruments named and thus impress the sound and effect of the various intervals and harmonies upon his memory. In short, this work is designed to be *playable* as well as *readable*.

The Chromatic Scales.

Chromatic scales do not especially belong to either the major or minor modes, although they are used in both. Chromatic passages, or "runs," are found in instrumental compositions in both major and minor keys.

Some theorists consider that the chromatic scale belongs more properly to the minor mode; be that as it may, it includes all the intervals of the octave and lends itself to any key or mode.

A chromatic scale may be formed on any of the twelve degrees of the chromatic scale of C—major or minor.

In short, chromatic scales may be written in all keys. Authorities differ as to the exact method of writing them, with regard to the use of the accidentals. The best method of procedure is to employ as few accidentals as possible (in order to avoid contradicting them by the use of other accidentals) and to write the chromatic scales so that they seem to progress logically and to *look* well upon the staff.

As previously stated, sharps and double sharps are usually employed in ascending, and flats, double flats and naturals in descending. In the flat keys, naturals are also used in ascending.

The examples following show correct notation, or grammatically correct writing, in each key.

Chromatic Scales in all Keys.

C Major. Ascending. Descending.

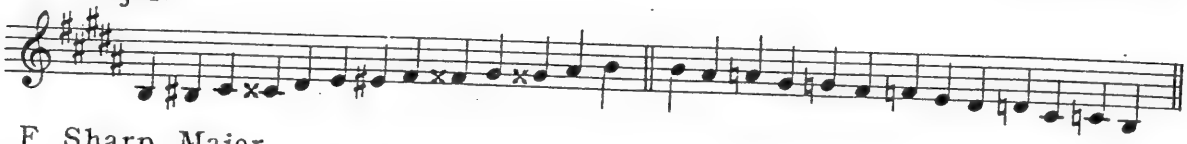
G Major.

D Major.

A Major.

E Major.

B Major.

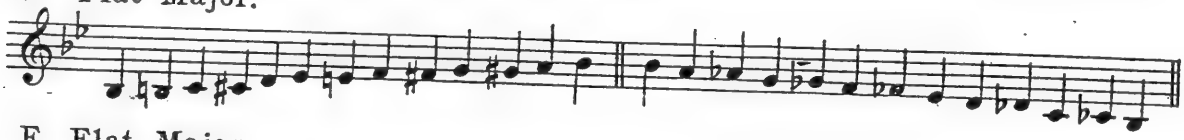


F Sharp Major.

C Sharp Major.

F Major.

B Flat Major.



E Flat Major.

A Flat Major.

D Flat Major.

G Flat Major.

C Flat Major.

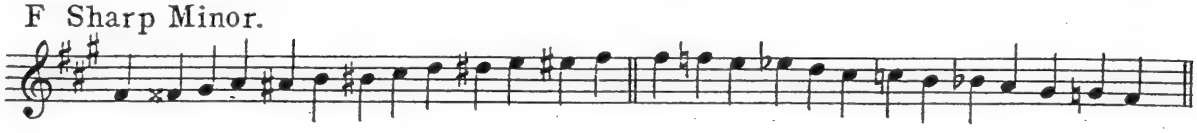
Ascending. Descending.

A Minor.

E Minor.

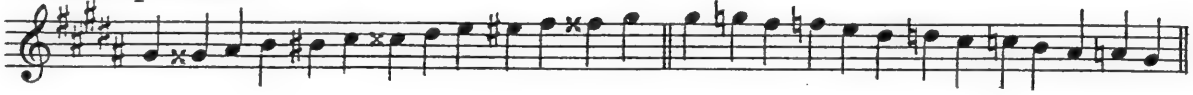
B Minor.

F Sharp Minor.



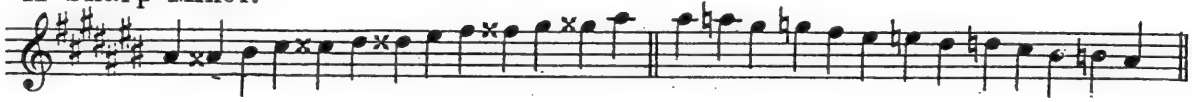
C-Sharp Minor.

G Sharp Minor.



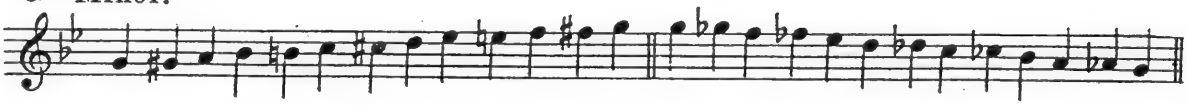
D Sharp Minor.

A Sharp Minor.



D Minor.

G Minor.



C Minor.

F Minor.

B Flat Minor.

E Flat Minor.

A Flat Minor.

Regarding the Scales with sharps and flats, those in general use seldom exceed seven of each. When a key has only one sharp, that sharp is on F. Each additional sharp is a fifth above the last sharp added, until the seven notes have all been sharpened; beyond that, double sharps are employed. When a key has only one flat, that flat is B. Each additional flat is a fifth below the last flat added until the seven notes have all been flattened; beyond that, double flats are employed. The sharp last added is the leading note of the new major key; the flat last added is the sub-dominant of the new major key.

Table of Scales in General use.

Major Keynote	Rel. Minor Keynote	Scale Signature.
C	A	
G	E	1 sharp, F.
D	B	2 sharps, F. C.
A	F sharp	3 sharps, F. C. G.
E	C sharp	4 sharps, F. C. G. D.
B	G sharp	5 sharps, F. C. G. D. A.
F sharp	D sharp	6 sharps, F. C. G. D. A. E.
C sharp	A sharp	7 sharps, F. C. G. D. A. E. B.
F	D	1 flat, B.
B flat	G	2 flats, B. E.
E flat	C	3 flats, B. E. A.
A flat	F	4 flats, B. E. A. D.
D flat	B flat	5 flats, B. E. A. D. G.
G flat	E flat	6 flats, B. E. A. D. G. C.
C flat	A flat	7 flats, B. E. A. D. G. C. F.

Note:— The author's object in giving examples of chromatic scales upon the minor keynotes, as well as the major, has been solely to emphasize the fact that the chromatic scales, if used at all in the minor mode, are necessarily written differently. As a matter of fact, all chromatic scales are alike, as they employ all the intervals of the octave.

Enharmonic Changes.

Enharmonic changes are those which involve no change of pitch, but merely of notation. Thus, from C sharp major to D flat major is an *enharmonic* change because the notes have the same *sound* in both keys, the difference being merely in the writing. The enharmonic scales have mainly a theoretical or educational significance. They are not in practical use further than to employ the various signatures up to seven sharps and flats. In writing out the major and minor scales in thirty keys (15 major and 15 minor,) as previously shown by the examples given, some enharmonic scales occur; for in reality there are but twenty-four different keys in music, twelve major and twelve minor. The others are enharmonic.

Table of The Major Scales

Showing Enharmonic Changes.

C			
F		E	Sharp
(1 flat)		(11	sharps)
B Flat		A	Sharp
(2 flats)		(10	sharps)
E Flat		D	Sharp
(3 flats)		(9	sharps)
A Flat		G	Sharp
(4 flats)		(8	sharps)
D Flat		C	Sharp
(5 flats)		(7	sharps)
G Flat		F	Sharp
(6 flats)		(6	sharps)
C Flat		B	
(7 flats)		(5	sharps)
G		A	Double Flat
(1 sharp)		(11	flats)
D		E	Double Flat
(2 sharps)		(10	flats)
A		B	Double Flat
(3 sharps)		(9	flats)
E		F	Flat
(4 sharps)		(8	flats)
B		C	Flat
(5 sharps)		(7	flats)
F Sharp		G	Flat
(6 sharps)		(6	flats)
C Sharp		D	Flat
(7 sharps)		(5	flats)

While the enharmonic scales which employ more than seven sharps or flats are seldom, if ever, used in actual writing, it is important that the student learn what is *possible* in the way of enharmonic changes.

The table of enharmonic changes, and other tables of reference presented in this work, will be found especially valuable in refreshing the memory of the student, from time to time, as he may have occasion to refer to them.

By deducting the number of sharps in a key signature from twelve, the remainder will show the exact number of flats required for an *enharmonic* change, or *vice versa*. Thus, the C sharp scale has seven sharps; deduct seven from twelve, and the remainder, five, gives the number of flats required for the enharmonic change (D flat)

Scales are related nearly or distantly according to the number of sounds they may have in common. For example:

C Major has for its *relatives* of first degree, G Major and F Major, these scales differing only in one note.

The related minor scales to G and F Major, viz., E and D Minor, are *relatives* of the second degree of the first scale of C.

Examples are shown of a few related keys. The student should take each scale separately and write its *relatives* of first and second degrees.

C Major
- Relatives of first degree, G Major, A Minor, F Major.
- Relatives of second degree, D Major, E Minor, D Minor, B Flat Major.

A Minor
- Relatives of first degree, E Minor, C Major, D Minor.
- Relatives of second degree, B Minor, G Major, F Major, G Minor.

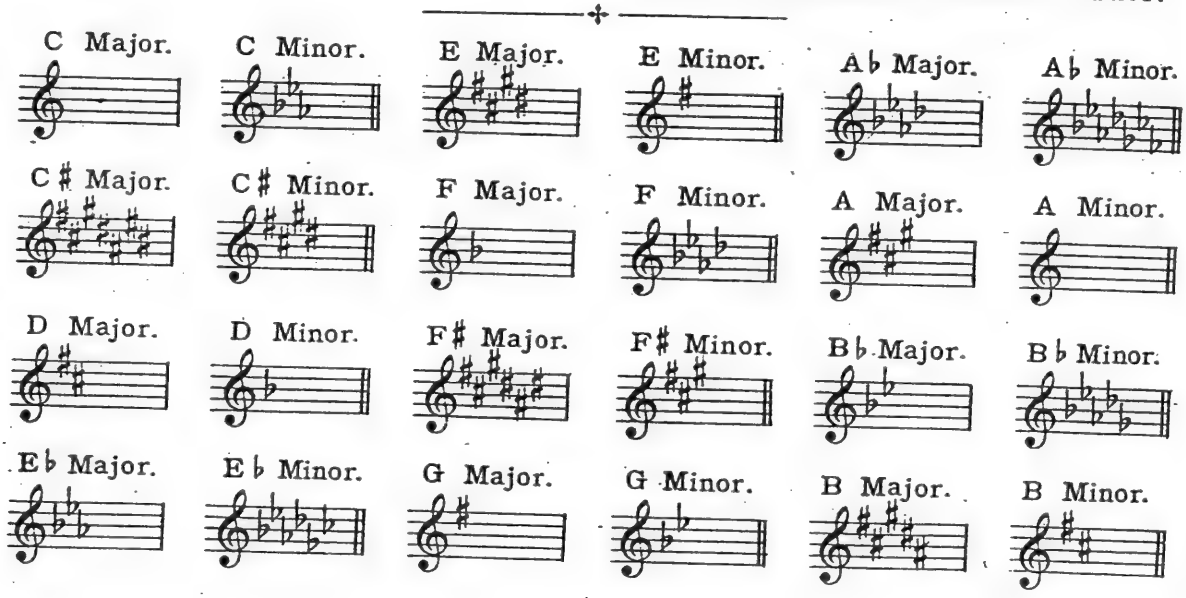
It is important that the student become thoroughly familiar with all relative scales, of first and second degrees, not only for the purposes of transposition but for composition as well.

Every scale signature has two keynotes (one for Major and one for Minor) as already shown.

Major and Minor keys are usually called relative which bear the same signature.

Some authorities prefer to consider the scales which start from the same keynote (tonic) as relative.

The following table is therefore given, showing signatures of Minor keys, as compared with their *tonic Majors*, presented in chromatic order:



Chapter II.

Theory Of The Intervals.

By *Interval* is meant the distance, or difference in pitch, between any two notes (sounds). Intervals are always reckoned upwards, unless the contrary be specified, and are calculated according to the number of letters included in counting from any note of a scale to one above it. For example: A to B is a *second,* there being two letters included, A and B; A to D is a *fourth,* there being four letters included, A, B, C and D.

Intervals are termed firsts (or primes) seconds, thirds, fourths, fifths, sixths, sevenths, eighths, etc, etc.

Observe carefully, that the intervals must be properly preserved in writing music, not alone with regard to the *sound* of a note, but in regard to its placing on the staff.

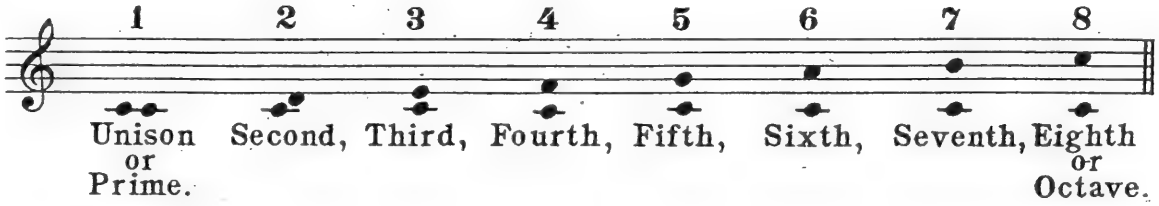
For example: D sharp and E flat have the same *sound* when struck or played, but in the study of harmony, and in respect to calculating intervals between notes, they are two *different and distinct notes,* being placed on different degrees of the staff and reckoned accordingly. For instance, from C to D sharp, is an interval of a *second* because it combines but *two letters* C to D. But C to E flat is an interval of a *third,* because it includes *three letters*— C to E.

Degrees and *Intervals* should not be confounded. When we are speaking of the key of A, the note C is the third degree, E the fifth degree, and the other notes in the scale hold their title to a fixed degree in that key according to the order in which they follow the key-note. When speaking of any note as an *interval* it becomes a third, fifth, or seventh to some other note, according to the distance, or number of degrees in pitch it may be above that other note. For instance, in the key of A (3 sharps) C is the third *degree* of the scale, but as an *interval* it is the second of B. Again, E is the fifth *degree* of the scale, but as an *interval* it is the fourth of B, the third of C, and the second of D.

Each note of a scale occupies a fixed degree, *while the key remains unchanged.* But if we change to another key, the notes will occupy different degrees according to the order in which they follow the key note of the new key.

To reckon *intervals* we take one note of a scale for a basis (it makes no difference which note of the scale is taken) and we find that the next note above it is its *second,* the next its *third,* the next its *fourth,* and so on.

The number of *degrees* in an octave and the *intervals* formed from those degrees are shown thus:



The example shows the eight intervals formed within an octave by taking the keynote as the first degree, or basis, and reckoning upwards. Thus, from C to C is *unison* (the same;) from C to D is a *second*; from C to E is a *third*; from C to F, a *fourth*; from C to G, a *fifth*; from C to A, a *sixth*; from C to B, a *seventh*; from C to C, an *eighth (octave.)*

Generally, intervals are rekoned only to the octave, beginning the series again with each new octave so that the *ninth* degree becomes a *second*, the *tenth* degree a *third*, the *eleventh* degree a *fourth*, etc, etc.

So the *fifteenth* becomes the *octave* (or prime), and the *sixteenth* a *second*.

For various reasons, relating to the principles of theory and harmony in general, to chord construction and composition, it is often necessary to name notes which lie above the octave according to the actual number of degrees.

The intervals contained in the second octave are therefore presented in double designation, reckoning the intervals as ninths, tenths, etc, also reckoning them according to their relation in the lower octave.

Octave, Ninth, Tenth, Eleventh, Twelfth, Thirteenth, Fourteenth, Fifteenth.

Second, Third, Fourth, Fifth, Sixth, Seventh, Octave.

Greater distances between notes are reduced to their original relation in the lower octave.

The intervals shown in the examples are based upon the diatonic scale of C Major. They are considered as based upon the first degree of the scale of C, whereas, in reckoning intervals, any note may be taken as the first degree., and the intervals reckoned therefrom.

However, the scale of C Major, taking the series of intervals as given in the examples, furnishes the foundation for the calculating and reckoning of all intervals.

The intervals shown do not affect the relations of the notes which lie between the diatonic degrees of the scale.

In addition to distinguishing the intervals as seconds, thirds, fourths, etc, it will be readily understood that they must be more particularly specified and determined, if the intervals are in any way altered by the use of accidental sharps, flats or naturals.

For example, if the *third*, C to E, be altered by having a flat placed before the E, it remains a *third*, but requires a special prefix to distinguish it, because it becomes a *different third* to what it was originally.

To more particularly specify and distinguish the intervals, they are called *Major, Minor, Perfect,*

Augmented and *Diminished.*

Seconds, thirds, sixths, sevenths, and *ninths,* which result from the key note of a major scale, are called *Major.*

Primes (firsts) *fourths, fifths* and *octaves* are called *perfect.*

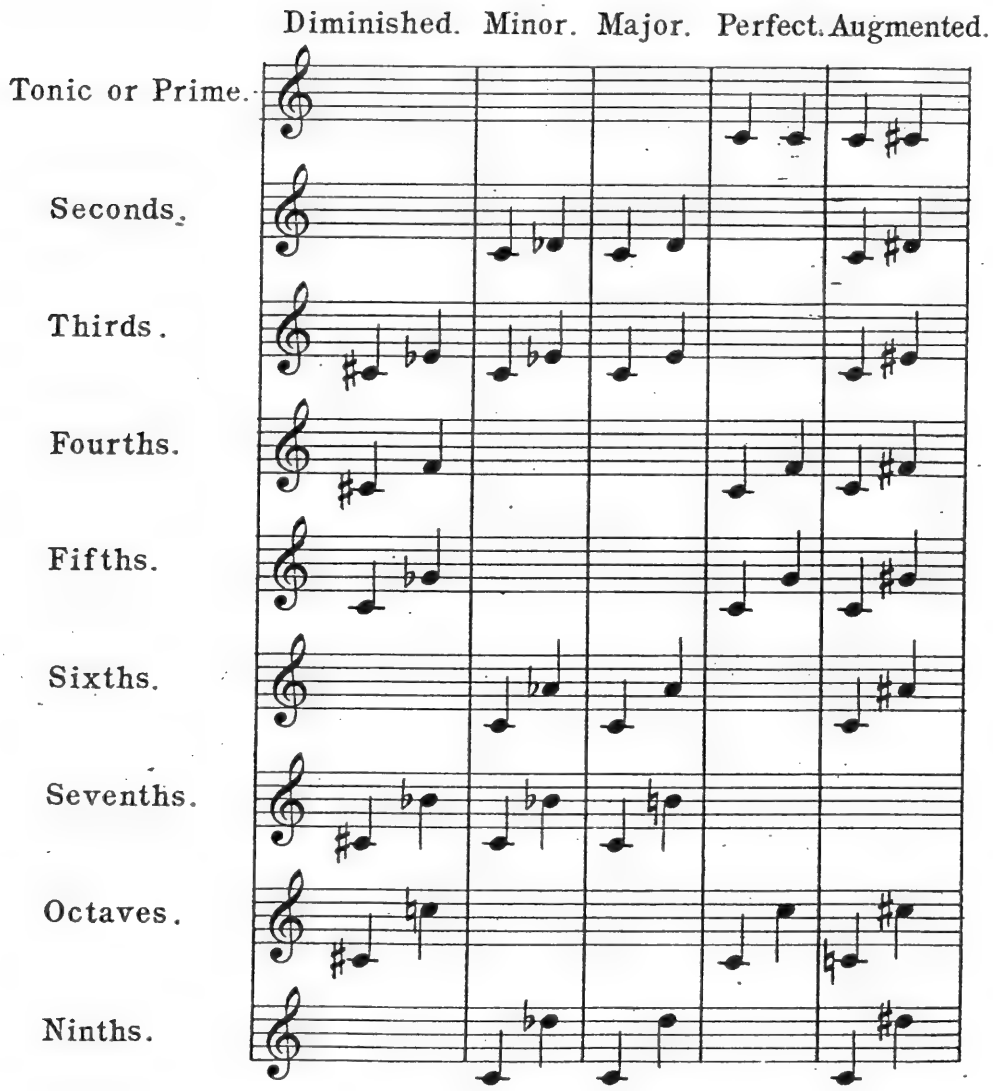
If the *upper* note of any major interval is *lowered* a semitone, it becomes a *minor interval.*

If the *upper* note of major or perfect intervals be *raised* a semitone, *augmented* intervals are the result.

If the *lower* note of perfect and minor intervals be *raised* a semitone, *diminished* intervals occur.

Intervals, therefore are Major(greater) Minor(lesser) Perfect or Imperfect, Augmented(increased) or Diminished (decreased.)

Table of Intervals.



Some of the intervals are not practical for the purposes of harmonizing and do not occur in harmonic relations. They have a merely theoretical significance.

The most practical and most used intervals are:

Primes — Perfect and Augmented.
Seconds — Major, Minor and Augmented
Thirds — Major, Minor and Diminished
Fourths — Perfect, Augmented and Diminished.
Fifths — Perfect, Augmented and Diminished.
Sixths — Major, Minor and Augmented.
Sevenths — Major, Minor and Diminished.
Octaves — Perfect and Diminished.
Ninths — Major and Minor.

The foregoing intervals are named as the most practical because they are employed most frequently in harmonizing and in chord combinations.

Among the intervals to be regarded as purely theoretical are *Augmented thirds, sevenths and ninths,* as they do not occur in harmonic relations.

Classification Of The Intervals as Consonant and Dissonant.

Consonant intervals are those which, when sounded, seem satisfying without progressing to another combination of notes.

Dissonant intervals are those which, when sounded, clearly indicate progression to, and connection with, other intervals. In short, combinations formed of dissonant intervals are not to be used except in progression, or modulation. They are not satisfying *alone;* but in progression, they are most valuable.

Consonant intervals are divided into Perfect and Imperfect — viz., Perfect fourth, perfect fifth and perfect octave; and imperfect, viz., Major and Minor thirds, Major and Minor sixths.

Dissonant intervals are: Seconds, sevenths, and all Diminished and Augmented intervals.

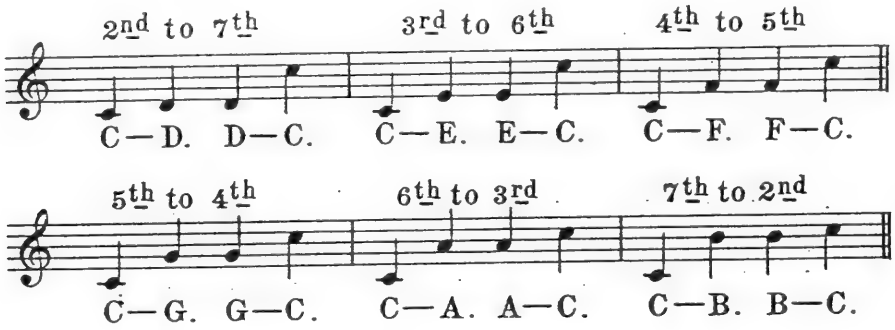
The most important, and the most used *Diminished Interval* is the *Diminished seventh.*

The importance of familiarity with the intervals will become apparant in the succeeding chapters on *Chord Construction* and *Harmonizing.* The uses of the intervals in building chords and in progression are fully explained on the pages following.

Inversion Of The Intervals.

Intervals become *inverted* by changing the *relative* position of the two notes comprising an interval. This may be done by placing the lower note above the higher, or by placing the higher note below the lower note:

The number of any interval within an octave added to the number of its inversion makes 9 thus, the Inversion of a *second* is a *seventh*; of a *third*, a *sixth*; or inversion of a *fourth*, is a *fifth*.



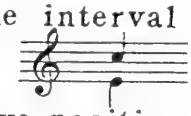
Perfect Intervals inverted remain Perfect.
Major Intervals inverted produce Minor Intervals.
Minor Intervals inverted produce Major Intervals.
Augmented Intervals inverted produce Diminished Intervals.
Diminished Intervals inverted produce Augmented Intervals.

The number of semitones contained in various Intervals, are as follows:

A Major second contains 2 semitones.
A Minor second contains 1 semitone.
An Augmented second contains 3 semitones.
A Diminished third contains 2 semitones.
A Major third contains 4 semitones.
A Minor third contains 3 semitones.
An Augmented third contains 5 semitones.
A Diminished fourth contains 4 semitones.
A Perfect fourth contains 5 semitones.
An Augmented fourth contains 6 semitones.
A Diminished fifth contains 6 semitones.
A Perfect fifth contains 7 semitones.
An Augmented fifth contains 8 semitones.
A Diminished sixth contains 7 semitones.
A Major sixth contains 9 semitones.
A Minor sixth contains 8 semitones.
An Augmented sixth contains 10 semitones.
A Diminished seventh contains 9 semitones.
A Major seventh contains 11 semitones.
A Minor seventh contains 10 semitones.
An Augmented seventh contains 12 semitones.
A Perfect octave contains 12 semitones.

As has already been explained, in calculating intervals it is usual to begin with the lower note; however, if it becomes necessary to determine the relation of two notes, taking the upper note as the starting point, the intervals resulting are called intervals *below*.

For example, take the interval of a sixth, E to C

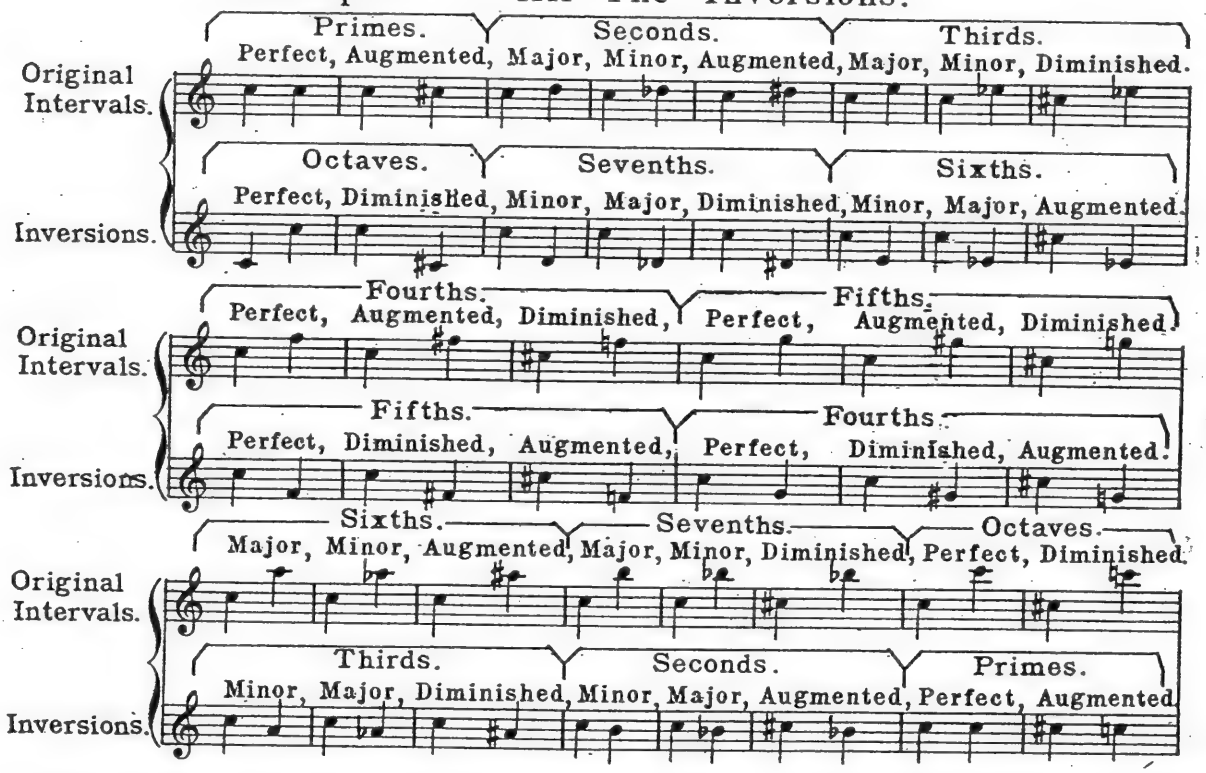


So long as the relative position of these notes is not altered, the interval remains a sixth, counting either from the lower or upper note. Thus, C is the sixth from E; or, taking the upper note as the starting point, E is the sixth from C, but the latter is the sixth *below* and must be so designated.

A difference is at once apparent if the upper note be removed and placed below the original lower note. This style of inversion shows at a glance the changes in the character of the intervals, by inversion, from major to minor, minor to major, augmented to diminished, etc. Especial use is made of these inversions in composition, hence the explanation and demonstration at this point.

In order that the inversions of the intervals may be clearly understood, a complete table is presented showing all the inversions, taking the scale of C major as the basis:

Examples Of All The Inversions.



An accurate knowledge of the inversions of the intervals is most essential, both for the writing of exercises in counterpoint and in harmonizing. Certain complications will unavoidably arise when the student begins to put into practice the theories set forth; but there is a reason for every exception to the general rules, and a full and complete knowledge of the intervals and their inversions will greatly assist the student in comprehending the structure of music in general and aid him in reconciling theory and practice.

Chapter III.

Chord Construction.

Combinations of notes, played or sung simultaneously, formed of different intervals, are known in general as *chords* or *harmonies*. However, *two notes* sounded simultaneously *do not constitute a chord*. Such combinations are to be designated as *double notes*. Or, in writing for two instruments or voices, as *two-part harmony*.

The union of three or more notes sounded simultaneously constitutes a chord.

Chord construction, or the building of chords, consists of the forming of the various chords in the major and minor keys, upon certain degrees of the scale, according to established rules.

Two of the most important branches of the study of Harmony are: *Chord Construction* and *Progression*. The first makes the student acquainted with the formation of the chords, and the latter teaches their natural connection, or progression, showing how they may be used in succession, their proper resolutions, and the combining of a series of chords in harmonious connection.

Most works on Harmony attempt to teach the formation of the chords and their resolutions at the same time. This is undoubtedly confusing and is not practical—so a complete treatise on chord construction follows here, *separately*, the progressions of the chords and their uses in harmonizing being demonstrated in another part of the book.

Chords of three different notes are called *triads*.

Chords of four different notes are called *chords of the seventh*.

A *triad* is formed by combining three different notes. Of these, the lowest is called the fundamental note, or tone, to which its third and fifth intervals are added.

A *chord of the seventh* is formed by combining four different notes; to accomplish this, a fundamental note is taken, to which its third, fifth and seventh intervals are added.

The various major and minor triads are the *common* chords and are in most frequent use; the others are employed to give variety of effect and for the purposes of progression and harmonizing, particularly in modulating and changing from one key to another.

Besides the *Triads or Common Chords* and *Chords of The Seventh*, there are also three other forms of chords known as the *Chord of the Ninth*, *Chord of the Eleventh* and *Chord of the Thirteenth*. These are all built the same as chords of the seventh, with the exception that the additional intervals required must be added: viz.

A chord of the ninth consists of a fundamental note with its third, fifth, seventh and *ninth* intervals added thereto.

A chord of the eleventh consists of a fundamental note with its third, fifth, seventh, *ninth* and *eleventh*

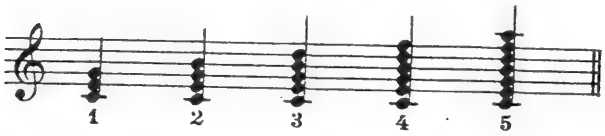
intervals added thereto.

A chord of the thirteenth consists of a fundamental note, to which are added its third, fifth, seventh, *ninth*, *eleventh* and *thirteenth* intervals.

It will be understood from the foregoing that the chords of the *ninth*, *eleventh* and *thirteenth* partake of the nature of chords of the seventh.

Table Of Fundamental Chords.

In Theoretical Form.



The theoretical chords shown in the example are as follows:

1 – Triad or Common Chord.
2 – Chord of the Seventh.
3 – Chord of the Ninth.
4 – Chord of the Eleventh.
5 – Chord of the Thirteenth.

These five chords are shown in theoretical form because they are the basis of all others. They are known as the Fundamental Harmonies; with their alterations, modulations, inversions and chords derived from them, they constitute all the actual chords used in music. Any additional combinations involve the use of Passing Notes and Suspensions, which are shown on succeeding pages.

This table of chords is to be used for reference. Later on, the student will be able to determine the origin of any chord by referring to the foregoing table.

Chords of 5, 6 and 7 different notes, complete, such as chords of the ninth, eleventh and thirteenth, are manifestly impossible to be played on a single instrument such as the violin, mandolin or banjo; they can be used but rarely on the guitar, and then only in a fragmentary form. But their harmonies can be utilized for the stringed instruments by omitting some of the intervals and they may be used in orchestration.

Their chief value, however, at this stage of study, rests on furnishing a basis for reference and a foundation for other chords. In the next chapter the various chords will be found given in practical form for the violin, mandolin, guitar and banjo.

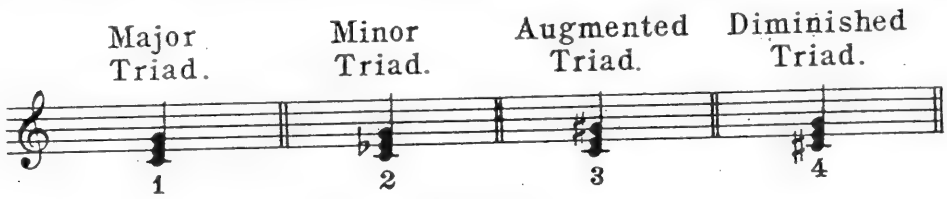
It is to be regretted that it is impossible to give the examples of chord formations in *playable form* for all the stringed instruments in this chapter. The author has traced the origin of all chords to the 5 fundamental harmonies shown on this page. Thus,— in order to follow up this simple and practical theory and make everthing perfectly clear to

the student, the chord formations must be shown first in their original forms, showing the alterations afterwards which makes them practical

The Triads.

Triads may be formed on every degree of a major or minor scale by taking each note and adding thereto its third and fifth intervals.

The triads are divided into four varieties, *Major*, *Minor*, *Augmented* and *Diminished*, according to the character of the intervals they contain.



The four varieties of triads are derived from chord Nº I of the Table Of Fundamental Chords. They all contain the same intervals of the scale 1st, 3rd and 5th The chord as it stands originally is a *Major* triad.

If the *third* of the chord be *lowered* a half-step, as shown at 2, it becomes a *Minor* triad.

If the *fifth* of the chord be *raised* a half-step, as shown at 3, it becomes an *augmented* triad.

If the *root* (lower note) of the chord be *raised* a half-step, as shown at 4, it becomes a *diminished* triad.

We learn from the foregoing, by analysis of the intervals contained in the four varieties of triads, that:

1_ all *Major Triads* consist of a fundamental note, *major* third and *perfect* fifth.

2_ all *Minor Triads* consist of a fundamental note, *minor* third and *perfect* fifth.

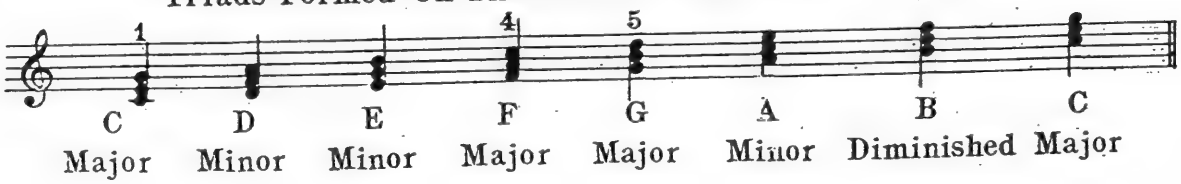
3_ all *Augmented Triads* consist of a fundamental note, *major* third and *augmented* fifth.

4_ all *Diminished Triads* consist of a fundamental note, *minor* third and *diminished* fifth.

Thus, triads are major, minor, augmented or diminished according to the character of the intervals they contain, and *not depending upon the key in which they may be written.*

If we write triads on every degree of the scale of C major, three different kinds of triads result, viz, *major, minor* and *diminished;* example below.

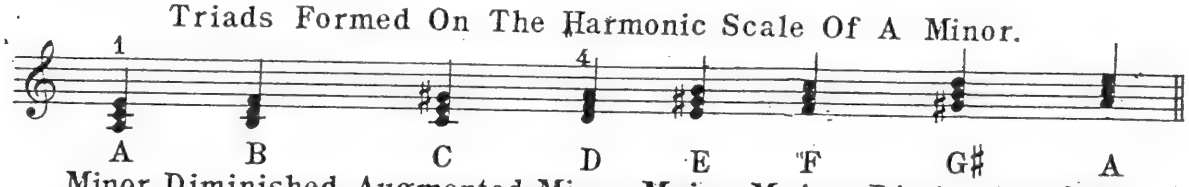
Triads Formed On The Diatonic Scale Of C Major.



It will be observed that only the triads formed on the 1st, 4th and 5th degrees of each major scale are *major* chords. The other triads are minor, except that built on the seventh degree, which is a *diminished triad*. The 8th degree, ofcourse, gives a *major* triad, being the same as that on the first degree.

If we write triads upon every degree of the Harmonic scale of A Minor, the four varieties of triads result: *Major, Minor, Augmented* and *Diminished*. Example:

Triads Formed On The Harmonic Scale Of A Minor.



Of the triads built upon any Harmonic minor scale, only those formed upon the 1st and 4th degrees are minor chords. The others are *major, augmented* or *diminished*, as shown in the example and always occur in the same order.

The triad formed upon the third degree of each Harmonic minor scale must be *augmented*, hence the use of an accidental sharp in the example.

The triad formed upon the fifth degree of this minor scale must be *major*, hence the use of an accidental sharp in the example, in order to create a *major* third for the chord, and thus make it major.

The seventh degree of every minor scale must always be raised a semitone by an accidental, hence the G sharp is usual in the scale of A minor and its presence there needs no further explanation.

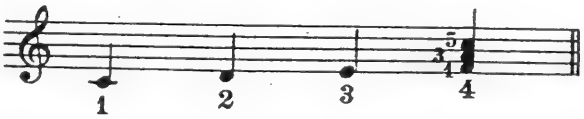
The triad formed upon the 8th degree of the minor scale is the same as that of the 1st degree—*minor*, being merely a repetition an octave higher.

These examples show that major chords are used in the minor keys, and *vice versa*.

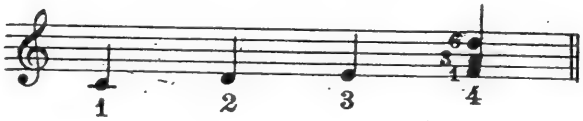
Other chords derived from the *triad* or common chord are: Chord of the Substituted Sixth and Chord of the Augmented Sixth.

The Chord of the Substituted Sixth is always formed upon the fourth degree of a major scale, to which its third and sixth intervals are added. It differs from the triad on the fourth degree of the major scale only in the fact of an interval of a *sixth* being *substituted* for that of a *fifth*—hence the name of the chord.

Major Triad On The Fourth Degree Of The Scale.

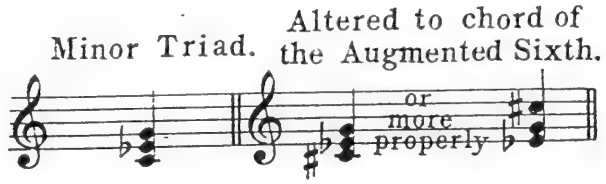


Altered To The Chord Of The Substituted Sixth.



Although merely an inversion of another chord, the chord of the Substituted Sixth must be considered separately in order to trace the origin of chords to the fundamental table, previously given.

The chord of the Augmented Sixth is derived from the Minor Triad. The only difference is, the fundamental note must be raised a semitone by an accidental. (also called double-diminished triad.) This chord is also an inversion, chromatically altered, and is presented therefore in two forms.



Chords of the Seventh.

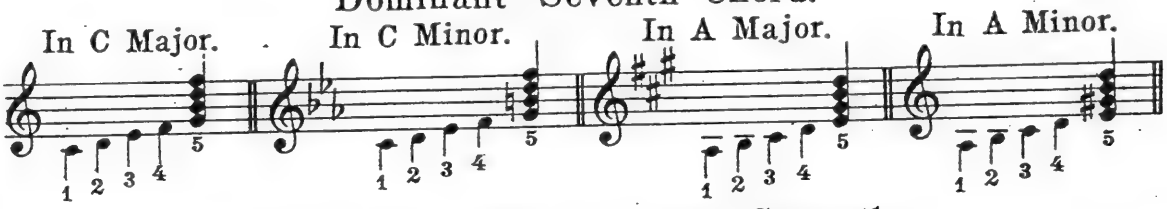
All chords of the Seventh are derived from Chord No. 2 of the Table of Fundamental Chords.

The varieties of the chords of the Seventh are:

The chord of the dominant seventh — called the *primary* chord of the seventh because it is the most important and most frequently used- and the *secondary chords of the seventh,* which include Major, Minor, Diminished and Augmented triads with the addition of a Major, Minor, or Diminished Seventh — as required by the key and mode — also chords formed by inversions.

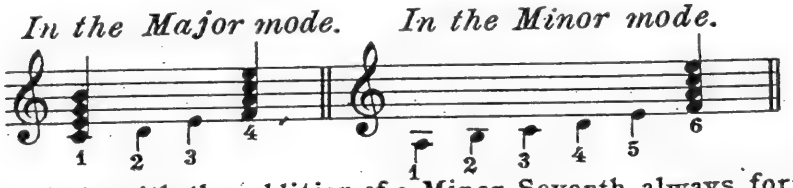
The chord of the dominant seventh is formed alike in both the Major and Minor modes — *i,e,* upon the fifth or dominant note of the scale, to which are added its 3rd, 5th and 7th intervals.

Dominant Seventh Chord.



Secondary Chords of the Seventh.

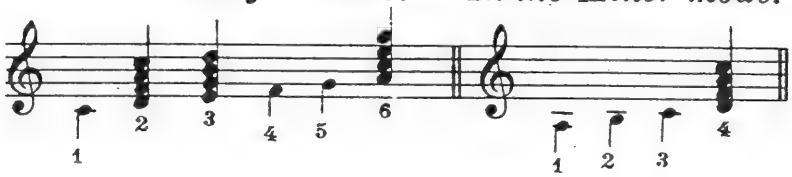
1—Major Triads with Major Seventh occuring on the 1st or 4th degrees of the Major scale and on the 6th degree of the Minor scale.



Note — Major triads with the addition of a Minor Seventh always form chords of the *Dominant Seventh.*

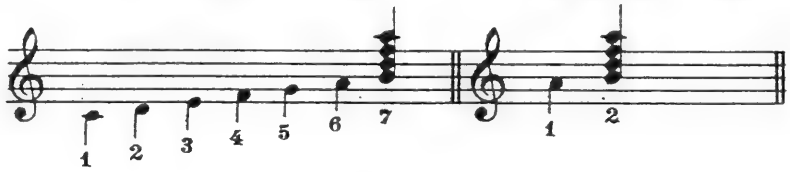
2— *Minor Triads with Minor Seventh* —occuring on the 2nd, 3rd and 6th degrees of the Major scale and 4th degree of the Minor scale.

In the Major mode. *In the Minor mode.*



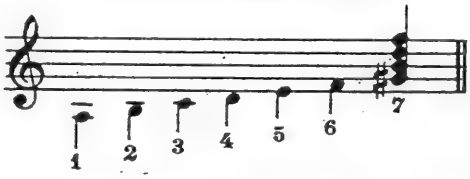
3— *Diminished Triads with Minor Seventh*— occuring on the 7th degree of the Major scale and the 2nd degree of the Minor scale.

In the Major mode. *In the Minor mode.*



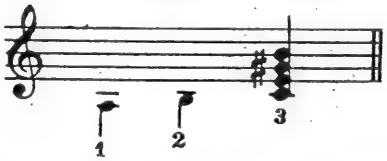
4— *Diminished Triad with diminished seventh*—(*Chord of the Diminished Seventh*) occuring on the 7th degree of the Minor scale.

In the Minor mode.



5— *Augmented Triad with Major Seventh* —occuring on the 3rd degree of the Minor scale.

In the Minor mode.



Chords of the Ninth, Eleventh and Thirteenth.

Chords of the Ninth are considered by some authorities as belonging to the *suspensions,* and as being accidental chord formations, and not as *real chords.*

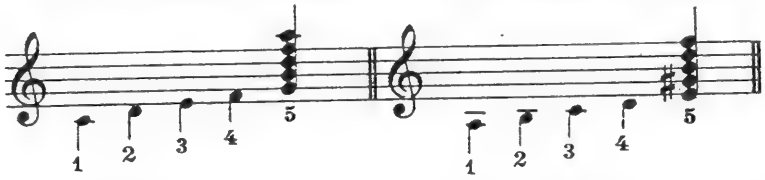
Nevertheless, these chords are in general use as *Chords of the Dominant Ninth,* or *Chords of the Dominant Seventh and Ninth,* in both Major and Minor, and are accordingly presented herein.

The Chord of the Dominant Ninth,

is formed alike in Major and Minor—simply by the addition of a ninth to the chord of the *Dominant Seventh.* Of course, in the Major keys this ninth must be *Major,* and in the Minor keys the ninth must be *Minor.*

Chord of the Dominant Ninth.

In the Major mode. *In the Minor mode.*

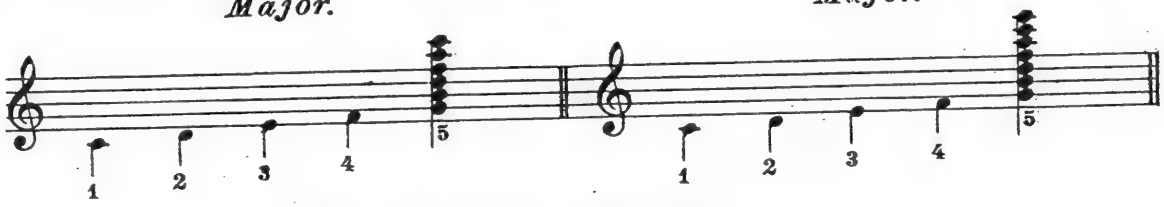


Like chords of the ninth, chords of the eleventh and thirteenth are in general use only as formed upon the dominant note of the scale, or *Chords of the Dominant Eleventh and Thirteenth*— Their formation is the same as the chords of the Dominant Ninth, with the addition of the intervals of an eleventh in one case; and of an eleventh and a thirteenth in the other.

To form a chord of the Eleventh, a *perfect* eleventh (from the root of the chord) must be added to a *chord of the ninth;* as stated, the chord of the eleventh is usually formed upon the dominant note of the scale, but may also be formed upon the tonic and super-tonic of the scale. As the *Chord of the Ninth* can be either Major or Minor, *six varieties of the Chord of the Eleventh* are possible.

To form a *Chord of the Thirteenth,* a Major or Minor third (thirteenth from the root) must be added to a chord of the Eleventh (having either a Major or Minor Ninth). This, therefore, makes possible *twelve varieties of the Chord of the Thirteenth.*

Chord of the Dominant Eleventh. Major. *Chord of the Dominant Thirteenth. Major.*



Other examples of the chords of the Eleventh and Thirteenth are omitted here because they are unnecessary at this point.

Chords of the *ninth, eleventh* and *thirteenth* can not be used in writing for the stringed instruments or in four-part writing without omitting some of the intervals contained therein.

It is customary, however, both in writing for the piano and in four-voice writing, to employ these chords in a fragmentary form (omitting certain intervals) therefore their uses in harmonizing, with examples, are demonstrated in another part of this work.

The chords of the *ninth, eleventh*

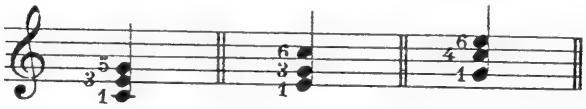
and *thirteenth* are derived from chords Nos. 3-4 and 5 of the Table of Fundamental Chords previously shown.

Inversions of the Chords.

The Triads, or common chords each have two inversions—the first called the *Chord of the Sixth*, and the second the *Chord of the Sixth and Fourth.*

Inversions of the Triad.

Original Position — First Inversion — Second Inversion



It will be seen from the foregoing that the various inversions of a chord are simply a re-arrangement of the same notes, and therefore inversion of a chord does not change its character. If it be a tonic triad in its original position, it remains the tonic triad just the same when inverted.

As shown by the example, the triad, or common chord, may be written in three positions, with inversions, in each octave.

For the first inversion of a triad, the *third* of the original chord is taken as the fundamental note, or bass, and for the second inversion the *fifth* of the original chord is taken as the bass, or fundamental note.

This re-arrangement of the notes of the triad gives the intervals 1–3–6 on the 1st inversion and 1–4–6 on the 2nd inversion, hence the titles—*Chord of the Sixth* and *Chord of the Sixth and Fourth*—the intervals of a sixth, and a sixth and fourth occuring through inversion.

The Chords of the Seventh each have three inversions—called respectively; the *Chord of the Sixth and Fifth; Chord of the Sixth, Fourth and Third* and *Chord of the Second.*

Inversions of the Chord of the Dominant Seventh.

Original Position — First Inversion — Second Inversion — Third Inversion

For the first inversion of a chord of the seventh, the *third* of the original chord is taken for the bass; for the second inversion, the *fifth* of the chord becomes the bass; and for the third inversion, the *seventh* of the original chord is taken for the bass, or fundamental note.

Any chord contains the same notes through its inversions. The re-arrange-

ment of the notes each time merely creates different intervals with each inversion (see figures accompaning the chord examples) hence the inversions may be classified (if desired) according to the titles given in the foregoing paragraphs. However, *it is not really necessary to do so*, for a *tonic triad* remains a *tonic triad* through all its inversions and a *chord of the dominant seventh* remains a *chord of the dominant seventh* through all its inversions.

Thus, in order to simplify the matter, inverted chords may be called simply, the 1st, 2nd or 3rd inversion, as the case may be.

The secondary chords of the seventh may all be inverted in the same manner as the dominant seventh chord—and they take on the same titles—as the figures of the intervals will be the same—viz—1-3-5-7 or 1-3-5-6 or 1-3-4-6 or 1-2-4-6 for the four positions of the chord, respectively.

In the same manner, the different varieties of the triads may be inverted after the model given for the common triads—the figures of the intervals occuring, respectively, 1-3-5 or 1-3-6 or 1-4-6 for the three positions of each triad.

Other forms of the Chords are known as altered chords (changed chromatically, by the use of accidental sharps and flats.)

These are:

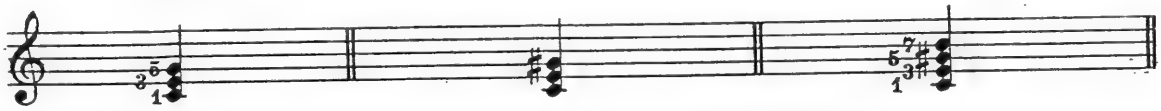
1—The Augmented Major Triad and the same with Major Seventh.

2—Chord of the Augmented Sixth.

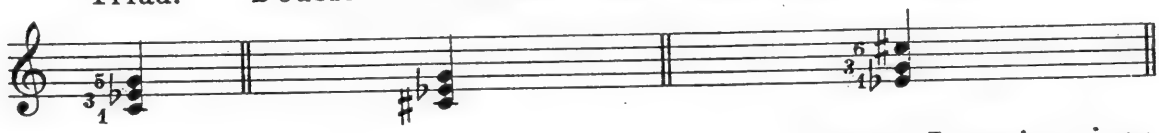
3—Chord of the Augmented Sixth, Fourth and Third; and Chord of the Augmented Sixth and Fifth.

To avoid confusion, No. 2 may be called a double-diminished triad and No. 3 Chords of the Augmented Sixth. These chords are shown herewith

No.1. Major Triad. Altered to Major Augmented Triad. Major Augmented Triad with Major Seventh.



No.2. Minor Triad. Altered to Double-Diminished Triad. *Inversion*—called Chord of the Augmented Sixth (double diminished triad.)



No.3. Chord of the Seventh on 2nd degree in Minor. Altered by raising the Third. Second Inversion gives Chord of the Augmented Sixth, Fourth and Third. (In Minor.)

Omitting the fundamental note gives Chord of the Augmented Sixth. (In Minor.)

With the addition of the Ninth and omitting the fundamental gives the Chord of the Augmented Sixth and Fifth. (In Minor.)

In example 3 we obtain three varieties of the Chord of the Augmented Sixth in Minor—these, however, are merely variations of one chord and may be called Chords of the Augmented Sixth, as previously mentioned.

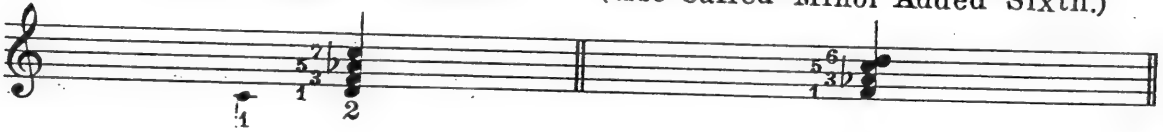
A great deal of confusion has arisen through various harmonists giving different names to the same chords. In order to simplify the matter as much as possible, the author of this work will dispense with these unnecessary titles whenever possible and will introduce them only in the way of explanation. Most of these titles arise through inversions of the chords; a separate title being used by various authorities for each inversion, instead of the far simpler and more comprehensive method adopted herein of referring to them by numbers, as 1st, 2nd or 3rd inversion—

For example—referring to the *altered chords,* previously demonstrated, at No. 3 we have a chord of the seventh on the second degree in Minor—The first inversion of this chord would give the notes—F—A flat, C and D or intervals 1–3–5–6—being merely an inversion and still remaining a chord of the seventh.

Nevertheless, this same chord is named by some harmonists, *Chord of the Minor added Sixth* in Minor. When it is constructed in the Major mode, they call it the *Major added Sixth*—The first is inversion of a Minor seventh and the second an inversion of a Major seventh—thus—

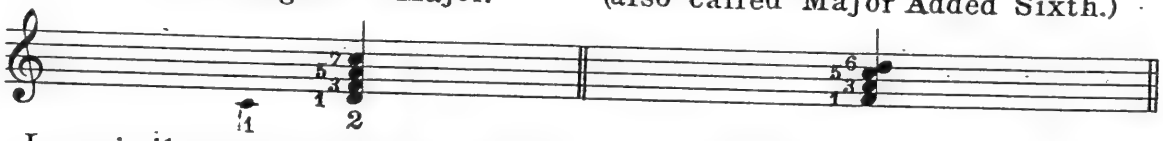
Chord of the Seventh on 2nd degree in Minor.

1st Inversion. (also called Minor Added Sixth.)



Chord of the Seventh on 2nd degree in Major.

1st Inversion. (also called Major Added Sixth.)



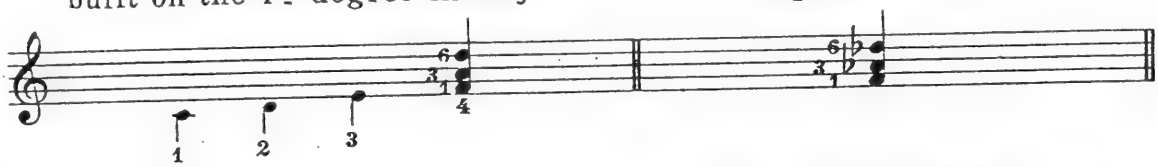
In a similar manner, the second inversion of the chord of the seventh of the 2nd degree in Minor, (shown under altered chords in example No. 3) is called the *French Sixth*—when the fundamental note of this chord is omitted (as also shown in the example mentioned) it is called the *Ital-*

ian Sixth. When the fundamental note is omitted and the *ninth* (from the root) is added (as also shown in the example) the chord is called the *German Sixth.*

All this is very confusing and entirely unnecessary — These may all be regarded as inversions and altered chords, as demonstrated, or in general, as *Chords of the Sixth.* Another variety of the Chord of the Sixth, is known as the *Neapolitan Sixth,* is also a chromatically altered chord, being derived from the Chord of the Substituted Sixth, by altering the third and sixth of the chord to Minor intervals.

Chord of the Substituted Sixth—built on the 4th degree in Major.

Altered to Neapolitan Sixth.



This chord contains a Major Third and Sixth.

This chord contains a Minor Third and Sixth.

A careful inspection of the preceding examples of chord inversions will show the whole theory of the same to be a simple matter and it may be clearly understood if the student will impress the following ordinary facts upon his memory.—

1— Each successive inversion of a chord consists merely of taking the lowest note of the existing chord and placing it at the top, which will give the next inversion.

2— *A Triad* (a chord of three notes) may be written in three different forms— in its original position and two inversions. These three positions may be repeated in successive octaves, according to the compass of the instrument.

3— *A Chord of the Seventh* (a chord of four notes) may be written in four different forms— in its original position and three inversions. The four positions of a chord of the seventh may be repeated in a higher or lower octave, or as far as the compass of the instrument may permit.

If we undertake to carry out and demonstrate the inversions of *Chords of the Ninth, Eleventh* and *Thirteenth* it is apparent that we would proceed in exactly the same manner as with the other chords; so that a *Chord of the Ninth* would have five different positions (4 inversions). a *Chord of the Eleventh* would have six different positions (5 inversions). and a *Chord of the Thirteenth* would have seven different positions (6 inversions)

To follow that theory would not be practical, it is evident; because endless complications would arise which would be difficult, if not impossible of adequate explanation to students of the stringed instruments, for several reasons.

1st Inversions of these chords are rarely used, even in writing for piano or orchestra.

2nd They are not practical for the stringed instruments.

3rd Chords of the Ninth, Eleventh

and Thirteenth are seldom used in a complete form, either in original positions or inversions, hence it is difficult to distinguish them from other chords.

4th Being used almost invariably in a fragmentary form, they generally become identical with other chords, or occur in such a manner as to be classified as *Suspensions* or *Passing Notes*.

It is well for the student to know the formation of these chords and the possibility of their use; and he may write out their inversions on paper, for purposes of practice and gaining facility in calculating intervals.

Of course, the Chords of the Ninth, Eleventh and Thirteenth employ so many notes that their inversions extend beyond the compass of the stringed instruments. They are explained in this work more for giving a thorough knowledge of *Theory*, than for practical purposes

In case inversions of the Chord of the Ninth are used, the root, or fundamental note, of the chord must be omitted.

Table of all the Practical Chords That Can Be Constructed in a Major or Minor Key.

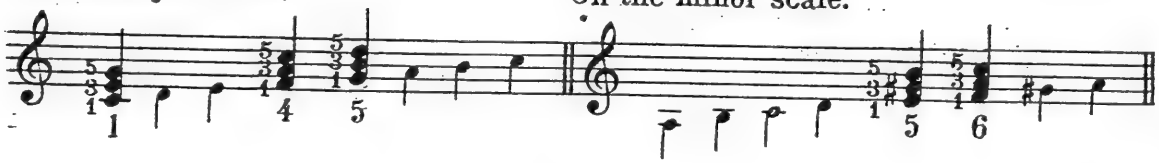
(Construction previously explained.)

NOTE— Chords which belong to the major mode are found in both the major and minor keys; likewise, chords belonging to the minor mode are found in both major and minor. It is the purpose of the following table to show all the chords and to determine particularly *which* chords *are* really *major* chords and those *which are* really *minor* chords.

Major Triads.

3 major triads occur on the major scale and 2 major triads occur on the minor scale.

On the major scale. On the minor scale.



Minor Triads.

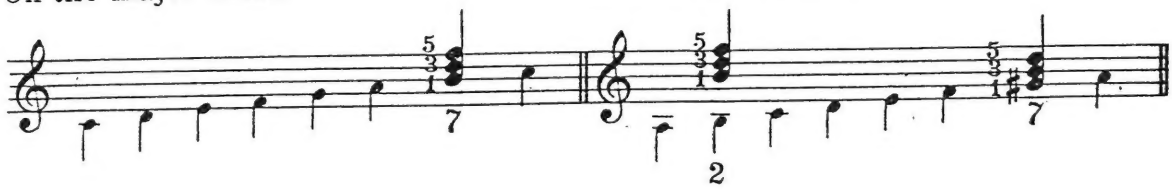
3 minor triads occur on the major scale and 2 minor triads occur on the minor scale.

On the major scale. On the minor scale.

Diminished Triads.

1 diminished triad occurs on the major scale and 2 diminished triads occur on the minor scale.

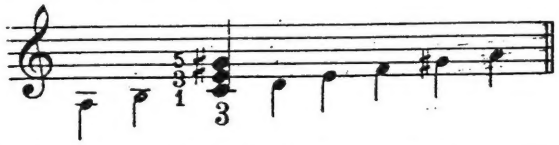
On the major scale. On the minor scale.



Augmented Triads.

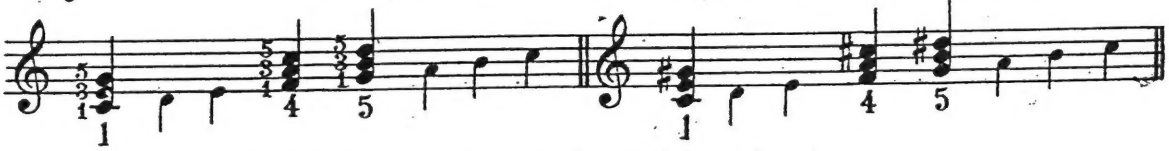
An augmented triad occurs on the 3rd degree of the minor scale.

On the minor scale.



Other augmented triads are merely *altered chords* in the major mode. The 3 major triads of the major scale may be changed to *augmented triads* by raising the upper note a semitone.

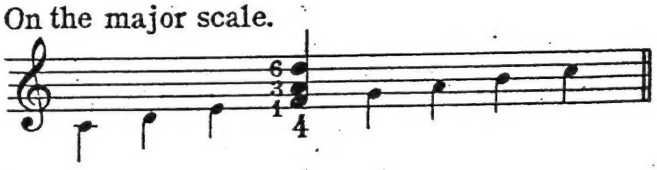
Major triads of the major scale. Altered to *Augmented triads.*



Chord of the Substituted Sixth.

(previously explained.)

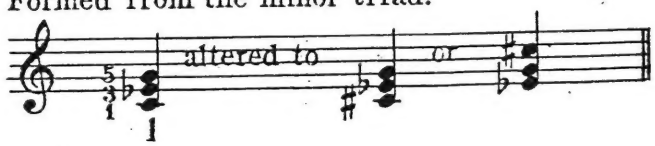
On the major scale.



Chord of the Augmented Sixth.

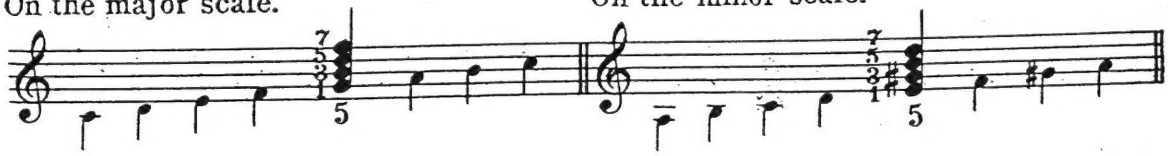
(Double Diminished Triad)
(previously explained.)

Formed from the minor triad.



Chord of the Dominant Seventh.

On the major scale. On the minor scale.



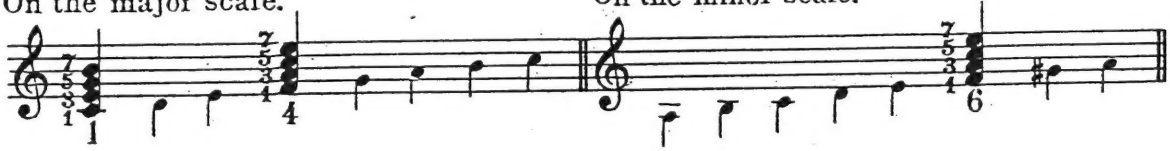
Secondary Chords of the Seventh.

The *Chord of the Dominant Seventh* is the principal chord of the seventh. All other chords of the seventh are secondary chords of the seventh. The triad on the 5th degree of a major or minor scale becomes a *Chord of the Dominant Seventh* by simply adding a seventh to the triad. The other triads become *Secondary Chords of the Seventh* by the addition of a major, minor or diminished seventh to the original triad. Thus:

Major Triads with Major Seventh.

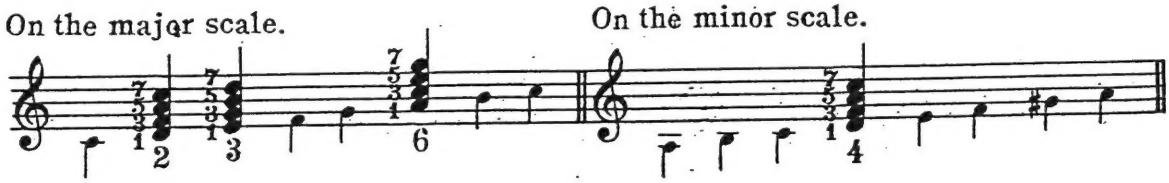
These are major chords.

On the major scale. On the minor scale.



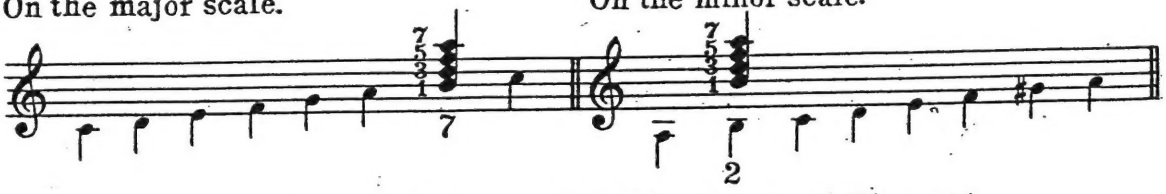
Minor Triads with Minor Seventh.

On the major scale. On the minor scale.



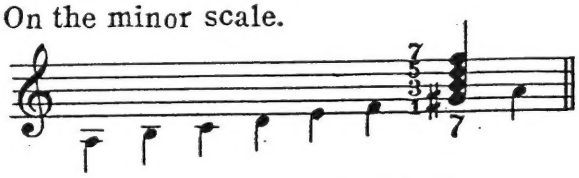
Diminished Triads with Minor Seventh.

On the major scale. On the minor scale.



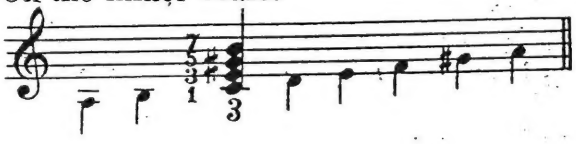
Diminished Triad with Diminished Seventh.
(Chord of the Diminished Seventh.)

On the minor scale.



Augmented Triad with Major Seventh.

On the minor scale.

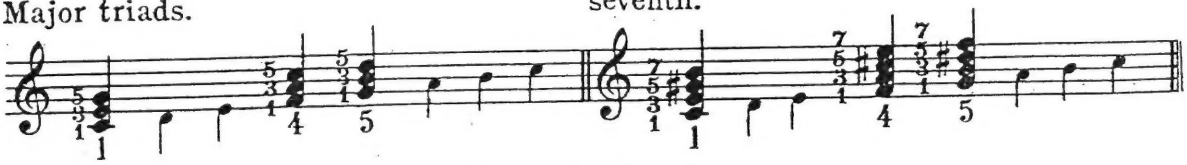


Altered Chords.
Augmented Triads with Major Seventh.

Formed from the 3 major triads of the major scale, altered to augmented triads, with the seventh added.

On the major scale.
Major triads.

Altered to augmented triads with major seventh.

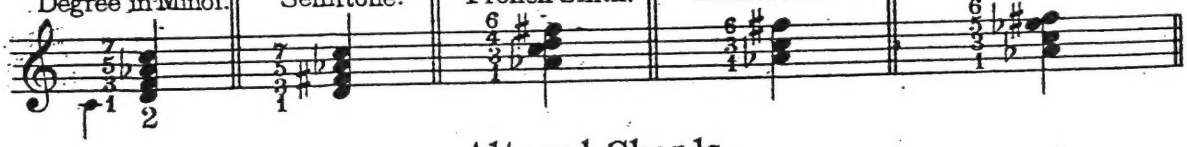


Altered Chords.

Chord of the Augmented Sixth; (previously shown.)
Augmented Sixth, Fourth and Third;
and Augmented Sixth and Fifth.
In general, Chords of the Augmented Sixth– Or, respectively, Italian Sixth, French Sixth and German Sixth.

all these are formed from the chord of the seventh on 2nd degree in minor and altered as previously shown— all these chords are in the minor mode.

Chord of the Seventh on 2nd Degree in Minor. | Altered by raising the Third a Semitone. | Second Inversion called the French Sixth. | The same without the Fundamental Note called the Italian Sixth. | The same without the Fundamental Note and the Ninth added called the German Sixth.

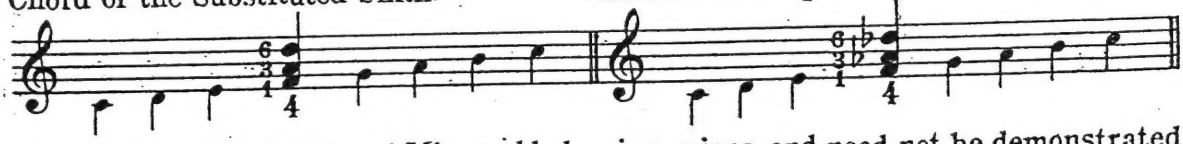


Altered Chords.
Neapolitan Sixth.

Formed from the chord of the Substituted Sixth, by alteration; viz, lowering the third and sixth of the chord a semitone; reducing those intervals to *Minor*, instead of *Major*.

Chord of the Substituted Sixth.

Altered to Neapolitan Sixth.



The Major added Sixth and Minor added Sixth chords have already been shown as inversions, and need not be demonstrated here.

Chords of the Ninth, Eleventh and Thirteenth will not be presented at this point They are not classed as practical chords and they have been sufficiently demonstrated and discussed on preceding pages.

This chapter on chord construction has fully shown all possible chord formations; Others are but inversions or variations of the forms given herein.

While all the chords shown thus far have been made practical as far as possible, a few are not playable on the stringed instruments as written in the foregoing pages—and some of them will probably never be encountered in the experience of the average student or performer. All the chord formations possible have been shown for the purpose of demonstrating the Theory of Chord Construction.

Every chord which is useful and practical for composing or arranging music for the stringed instruments is shown in the Table of Chords following this chapter.

In a succeeding chapter, the connection of these chords is demonstrated, including Progression of the Chords and Modulation.

For the stringed instruments, it is a frequent practice to double one of the notes of each triad in order to form a full chord employing four strings. The fundamental note, or root, and the third of the triad are mostly used for the purpose, although the fifth may be doubled under certain conditions.

The chords presented are given in their most practical forms, doubling certain notes of the triads where needed and omitting certain intervals of a chord when necessary to do so. On account of the tuning and range of the stringed instruments alterations of certain chords from their original forms are unavoidable, but this does not prevent harmonious combinations or interfere with practical results.

The following tables of chords in practical form for violin, mandolin, guitar and banjo (besides piano) furnish an invaluable work of reference for the composer and arranger of music for the stringed instruments, as the chords are shown side by side in the most correct, practical and playable form for five different instruments, enabling the arranger or composer of music to instantly observe and make use of the various chords and their inversions and when scoring for orchestra to distribute the notes of the chords among the various instruments to the best advantage, particularly after studying the succeeding chapters on Progression, Composition, Arranging, etc. etc. The author of this work herein presents an absolutely new departure and a new and original idea in showing the chords and their inversions— properly written out and adapted to each individual instrument, illustrating the differences occurring in the same chords when placed for the several instruments. No such table of chords has ever been prepared for publication before—or at least has never been published in any country so far as the author is aware, and he has made a diligent search among works on Harmony and Composition, both Foreign and American. From his own practical experience of many years as a composer and arranger of music, the author believes this feature of the work will be of the greatest value to writers of music for the stringed instruments and will be welcomed by them as a convenience, a time-saver and an educator in the preparation of stringed music.

It will be noted that in each chord shown in the following tables— as well as all the inversions—the fundamental note of each is retained where it belongs, i, e, as the *fundamental* of the chord. For this reason, it becomes necessary to omit certain intervals at times, and hence some chords for violin or mandolin become reduced to "double notes."

END OF PART I.